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(54) Title of the Invention:	Rotating drum type amusement machine
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SPECIFICATION

1. Title of the Invention

Rotating drum type amusement machine

2. Claims

1. A rotating drum type amusement machine comprising:
 - a) normal game means consisting of at least three picture reels having pictures of different types depicted on the circumferential faces thereof, and first driving devices, provided respectively for each of the picture reels, for causing said picture reels to rotate;
 - b) subsidiary game means consisting of a rotating member having a suitable number of differing symbols depicted on the surface thereof, and a second driving device for causing said rotating member to rotate;

- c) first stopping means for supplying stop signals individually to the respective first drive devices, in accordance with a deliberate operation;
- d) first detecting devices for detecting the stop positions of the respective reels when the rotation thereof is halted;
- e) normal game judging means for judging whether or not a prize has been won on the basis of the detection signals from the first detecting devices, and issuing a start signal for a subsidiary game in the case of a particular prize combination;
- f) second stopping means for supplying a stop signal to the second drive device;
- g) a second detecting device for detecting the stop position of the rotating member when the rotation thereof has halted;
- h) subsidiary game judging means for judging whether or not a prize has been won on the basis of the detection signal from the second detecting device; and
- i) hopper driving means for driving a hopper in such a manner that it pays out corresponding tokens, when a signal from said normal game judging means or a signal from said subsidiary game judging means is input thereto.

3. Detailed Description of the Invention

(Industrial Applicability)

The present invention relates to a rotating drum type amusement machine, as typified by a slot machine. More particularly, it relates to a rotating drum type amusement machine which can be played with greater interest.

(Prior Art)

A rotating drum type amusement machine, such as a slot machine, generally uses three picture reels provided with a cylindrical face depicting a plurality of pictures, these reels being caused to rotate and the respective picture reels then being stopped by a player pressing stop buttons provided for each reel, whereby the respective picture reels are caused to stop at random, and a prize is determined according to the combination of pictures in a previously determined the prize line, a prescribed number of tokens being paid out if the player has won a prize.

Figs. 8 to 9 show an approximate front view of a conventional rotating drum type amusement machine (Z) of this kind, and a prize line in a front panel (21) and picture reels, or the like, as viewed through a reel window.

The aforementioned rotating drum type amusement machine (Z) is also known as a "slot machine", and comprises a box-shaped housing, inside which are

accommodated three picture reels (1), (2), (3), motors for causing same to rotate, and other control devices and the like. 21 pictures of 7 different types, for example, are depicted in a random order on the respective outer circumferences of each of the aforementioned picture reels (1), (2), (3). Moreover, on the front panel (21) of the front upper portion of the machine, there are provided: a reel window (22) so that the player can see through to the pictures on the picture reels (1), (2), (3); a start switch (10) for causing the respective picture reels (1), (2), (3) to rotate; stop buttons (11), (12), (13) for stopping the rotation of the aforementioned picture reels (1), (2), (3), independently; a token input slot (9); a line display device (23) for displaying the positions and number of prize lines; and the like.

In this amusement machine (Z), five prize lines are provided corresponding to the three rows of picture reels (1), (2), (3) appearing in the reel window (22), and a prescribed position and number of prize lines can be selected mechanically from these five prize lines, by means of the number of tokens input. In other words, the machine is previously set up in such a manner that, if the number of tokens input by the player to the token input slot (9) is one token, then only the centre line (I) is selected, and in the case of two tokens, the lines above and below the centre line (I), namely (IIa), (IIb), are added to provide three prize lines, whilst if three tokens are input, then the diagonal lines (IIIa), (IIIb) are also added to provide five prize lines.

The game in this conventional amusement machine (Z) consists of one, three or five prize lines being selected according to the number of tokens input by the player to the token input slot (9), whereupon the line display device (23) indicating the prize lines lights up to inform the players the number and positions of the prize lines. The player then presses the start switch (10), causing the respective picture reels (1), (2), (3) to rotate, and thereby starting the game. Thereupon, as illustrated in Fig. 10, when the player presses the stop buttons (11), (12), (13), respectively, in a desired sequence (201), the picture reels (1), (2), (3) stop rotating, and when all of the picture reels (1), (2), (3) have stopped (202), a prize is determined according to the combination of pictures which have stopped on the aforementioned prize lines (203). If a prize has been won, then a prescribed number of tokens are paid out (204) (hereinafter, this game is called "normal game").

The rotational speed of the respective picture reels (1), (2), (3) described above is a speed whereby the pictures on the outer circumferences are difficult to discern clearly, and in most cases, the player simply presses the stop buttons (11), (12), (13), at

random, but to some extent, he or she is able to stop the picture reels (1), (2), (3) at desired stop positions, in a deliberate manner. Therefore, a rotating drum type amusement machine (Z) of this kind stimulates the interest of the player, sufficiently, and allows him or her to play an interesting game.

In a conventional amusement machine (Z) of this kind, in order to further increase the interest generated by the game, it has also become possible to play a continuation bonus game using one picture reel only, in addition to the aforementioned normal game. A continuation bonus game is also known generally as a small bonus game, wherein, after the picture reels have rotated and each picture reel has been stopped, one at a time, if any one of the picture reels has stopped at a picture indicating a continuation bonus, then a prescribed number of tokens are paid out.

A continuation bonus game can be achieved by operating a built-in continuation bonus device, if a prescribed prize combination is obtained in the prize combinations of the normal game. Moreover, it is also possible to adopt a composition comprising a continuation bonus increasing device which allows large bonus games to be played by increasing the number of games of the continuation bonus game itself, thereby further enhancing the player's interest in the game.

(Problems to be Solved by the Invention)

The conventional amusement machine (Z) described above is widely used to play very entertaining games wherein the stopping position of the picture reels are determined by a combination of an element of chance and an element of the player's skill in pressing the stop buttons in a deliberate fashion.

As a result of continued and thorough research into amusement machines which might enable more interesting games to be played, the present inventor discovered that a more interesting game might be possible if a chance for playing a small bonus game or large bonus game (hereinafter, called "subsidiary game") could be imparted by some means other than the picture reels, when a particular prize combination is obtained in a normal game.

The present invention provides a new rotating drum type amusement machine completed on the basis of this finding.

(Means for Solving the Problems)

The rotating drum type amusement machine according to the present invention is now described on the basis of Fig. 1.

The present invention is characterized in that it comprises: (a) normal game means consisting of at least three picture reels (1), (2), (3) having pictures of different types depicted on the circumferential faces thereof, and first driving devices (5), (6), (7), provided respectively for each of the picture reels (1), (2), (3), for causing said picture reels (1), (2), (3) to rotate; (b) subsidiary game means consisting of a rotating member (81) having a suitable number of differing symbols depicted on the surface thereof, and a second driving device (84) for causing said rotating member (81) to rotate; (c) first stopping means (11), (12), (13) for supplying stop signals individually to the respective first drive devices (5), (6), (7), in accordance with a deliberate operation; (d) first detecting devices (15), (16), (17) for detecting the stop positions of the respective reels (1), (2), (3) when the rotation thereof is halted; (e) normal game judging means for judging whether or not a prize has been won on the basis of the detection signals from the first detecting devices (15), (16), (17), and issuing a start signal for a subsidiary game in the case of a particular prize combination; (f) second stopping means (14) for supplying a stop signal to the second drive device (84); (g) a second detecting device (87) for detecting the stop position of the rotating member (81) when the rotation thereof has halted; (h) subsidiary game judging means (32) for judging whether or not a prize has been won on the basis of the detection signal from the second detecting device (87); and (i) hopper driving means (33) for driving a hopper in such a manner that it pays out corresponding tokens, when a signal from said normal game judging means (31) or a signal from said subsidiary game judging means (32) is input thereto.

The aforementioned rotating member (81) may be of any form, provided that symbols, such as numerical figures, images, or the like, are depicted on the surface thereof, and for example, a circular disc having numerical figures or images depicted on a circumferential fashion on the surface of the disc, or a reel having numerical figures or images depicted on the outer circumference thereof, may be used. The aforementioned second stopping means (14) may also be operated by deliberate human operation, or it may be operated automatically.

(Action)

In the present invention, three picture reels (1), (2), (3) are caused to rotated by first drive devices (5), (6), (7). When first stopping means (11), (12), (13) are operated intentionally after the reels have started to rotate, then the three picture reels (1), (2), (3) are stopped at rotational positions corresponding to the times at which they were

operated. The rotational stopping positions of the respective picture reels (1), (2), (3) when they are halted are detected respectively by first detecting devices (15), (16), (17).

In this way, when one round of a normal game ends, it is determined by normal game determining means (31) whether or not the stopped pictures of the respective picture reels (1), (2), (3) form a combination corresponding to a prize, on the basis of the stop signals from the first detecting devices (15), (16), (17), and if a prize has been won, then a start signal for a subsidiary game is issued.

The subsidiary game begins with a rotating member (81) starting to rotate in accordance with said start signal. The rotation of the rotating member (81) is halted by operation of second stopping means (14), and subsidiary game determining means (32) then determines whether or not the symbols displayed when it stops form a combination corresponding to a prize. If a standard prize was obtained in the normal game, then at this point, hopper driving means (33) operates and pays out corresponding tokens, and one round of the game finishes without proceeding to the subsidiary game. If a particular prize is obtained in the normal game, then the tokens corresponding to the normal game are paid out, and the machine then also transfers to the subsidiary game. If a prize is won in the subsidiary game, then at that point, the continuation bonus device or continuation bonus increasing device is activated, and a small bonus game or large bonus game can be played. Moreover, if no prize is won during the normal game, then one round of the game ends without any tokens being paid out, and if no prize is won in the subsidiary game, then the game ends directly, and the machine returns to its original state.

(Embodiments)

Next, embodiments of the present invention will be described.

Fig. 1 is a functional diagram of the present invention; Fig. 2a shows a front panel of a rotating drum type amusement machine relating to a first embodiment of the present invention; Fig. 2b – 2d shows principal front views of circular discs forming rotating members; Fig. 3 is an electrical circuit diagram of the first embodiment; Fig. 4 is a flow chart showing the game contents of the first embodiment; Fig. 5 is a flowchart showing the game contents of a second embodiment; Fig. 6 is a flowchart showing the game contents of a third embodiment; and Fig. 7 is an explanatory diagram of a subsidiary reel forming a rotating member according to a fourth embodiment.

In Fig. 2a, (21) is a front panel of a slot machine relating to the present embodiments. Three reel windows (22) are provided in the centre of said front panel

(21), through which three lines of pictures on picture reels (1), (2), (3) for a normal game can be viewed. The picture reels (1), (2), (3) have, for example, 21 pictures of 7 different types depicted on the outer circumferences thereof, within boxes provided at equal pitch. These picture reels (1), (2), (3) are supported by an installation frame on the inside of the main unit, and stepping motors (5), (6), (7) constituting first driving devices are connected respectively to the rotational shafts thereof. Control type motors, such as DC motors or AC motors, may be used as the aforementioned first driving devices. (I), (IIa), (IIb), (IIIa), (IIIb) are respective prize lines, and lines indicating these prize lines are depicted on the reel windows (22).

A circular disc (81) forming a rotating member for a subsidiary game is provided on the upper portion of the front panel (21). This circular disc (81) is supported on an installation frame inside the main unit, and the rotational shaft thereof is connected to a stepping motor (84) constituting a second driving device. A control type motor, such as a DC motor or AC motor, may be used for said second driving device.

As illustrated in Fig. 2b, said circular disc (81) shows figures from 1 to 12 within boxes demarcated in circumferential fashion on the disc, on which blank boxes are also provided. Moreover, as shown in Fig. 2c, a disc depicting single circles or double-circles instead of the aforementioned figures, or a disc depicting pictures, such as diamond or star shapes, or the like, instead of these circle symbols, may also be used.

A stopping mark (71) indicating one figures or picture is provided above the circular disk (81). The probability of winning a prize in the subsidiary game is set by a ratio of the prize symbols compared to the total number of boxes, and therefore, the number of prize symbols should be determined in accordance with the desired prize probability. For example, in the case of the circular disk (81) in Fig. 2b, the odd numbers (6 boxes) are allocated to continuation bonus prizes, the even numbers (6 boxes) are allocated to continuation bonus increase prizes, and the blank boxes (8 boxes) are allocated to no prize. Moreover, in the case of the circular disk (81) in Fig. 2c, the single circle symbols or star symbols (6 boxes) are allocated to continuation bonus prizes, the double circle symbols or diamond symbols (6 boxes) are allocated to continuation bonus prizes [*sic*], and the blank boxes (8 boxes) are allocated to no prize.

The following description relates to a case where a circular disk (81) as shown in Fig. 2b is used, but the case of a circular disk (81) as shown in Fig. 2c should also be understood similarly.

In addition to the foregoing, there are also provided on the front panel (21): a payment display device (24) for displaying the amount of tokens to be paid out when a prize is won; a token input slot (9) for inserting a prescribed number of tokens for each game; a start switch (10) for activating the respective picture reels; stop buttons (11), (12), (13) provided corresponding to each of the picture reels (1), (2), (3), for stopping the respective picture reels (1), (2), (3); a stop button (14) for stopping the aforementioned circular disk (81); and the like.

Next, an electrical circuit is described on the basis of Fig. 3. (30) is a microcomputer for controlling the entire slot machine. This microcomputer (30) performs the necessary comparisons and judgements required in implementing the game, on the basis of input signals, and it comprises: a CPU for outputting these results as control signals; a ROM for storing procedures for making comparisons and judgements in the CPU, programs for determining the order in which such steps are implemented; and combination data, and the like, for the prize-winning stop pictures and the prize-winning stop figure required to determine prize winning in a normal game and a subsidiary game; a RAM for storing other data; and an input port (36) for selecting the timing combination of external signals and internal signals, and input/output signals, and an output port (35) for outputting control signals (35).

The stepping motors (5), (6), (7) are connected via a drive circuit (38) to the output port (35), in such a manner that that whilst a pulse-shaped control signal is supplied from the CPU, a drive signal is transmitted by the drive circuit (38), thereby causing the stepping motors (5), (6), (7) to rotate.

The start switch (10), respective stop buttons (11), (12), (13), (14), respective detection sensors (15), (16), (17), and the token output device (41) are connected respectively to the input port (36). An start up circuit (47) and stopping circuit (48) are interposed respectively in the signal line from the aforementioned start switch (10) and the signal line from the respective stop buttons (11), (12), (13), (14). Said position detecting sensors (15), (16), (17) detect a reset signal section provided at one point on the circumference of each of the picture reels (1), (2), (3), and are constituted by photosensors, for example, in such a manner that they issue a reset signal once for each revolution of the picture reels (1), (2), (3).

Said token detecting section (41) detects the fact that tokens have been input to the token input slot (9), and the number of tokens thus input, and a micro-switch, photosensor, or the like, may be used for same.

Moreover, a stepping motor (84) for causing the circular disk (81) to rotate is connected between the output port (35) and input port (36). This stepping motor (84) receives a drive signal from the drive circuit (39), whilst a control signal is issued by the CPU, whereby it is caused to rotate. When the stop button (14) is pressed, the drive signal from the CPU is halted, and the rotation of the stepping motor (84) stops. A position detecting sensor (87) detects a reset signal provided at one point on the circumference of the circular disk (81), and is constituted by a photosensor, for example, in such a manner that it issues one reset signal for each revolution of the circular disk (81).

The output port (35) is connected, via respective drive circuits (44), (45), (46), to: a hopper (42) for paying out corresponding tokens when a prize has been won; a speaker (43) for playing different tuneful melodies when different prizes are won; and a payout display unit (24) for displaying the number of tokens corresponding to the prize (for example, 2, 5, 8, 10 or 15 tokens).

In this embodiment, when a player inputs a token to the token input slot (9) with the power supply switched on, a detection signal for same is sent to the CPU by the token detecting unit (41), and the CPU sets the slot machine to an active state, whilst also issuing a drive signal to the speaker (43) in such a manner that a previously determined melody is played.

In this state, if the player then presses the start switch (10), then a start signal is fed to the CPU, which in turn issues drive signals simultaneously to the stepping motors (5), (6), (7), whereby the picture reels (1), (2), (3) all start to rotate. Thereupon, if the player presses one of the stop buttons (11), (12), (13), a stop signal is fed to the CPU, and immediately, the drive signal from the CPU is halted and the rotation of the picture reels (1), (2), (3) is halted. The stepping motors (5), (6), (7) rotate precisely in reaction to the drive signals, and when the player performs a push button operation, they halt almost instantaneously. Therefore, the player is able to freely select the order and time intervals by which he or she presses the stop buttons (11), (12), (13), so as to halt the respective picture reels (1), (2), (3) in desired positions.

Normal game determining means (31) and subsidiary game determining means (32) are achieved by software processing in the microcomputer (30).

Judgement of prizes in a normal game is performed in the following manner. The CPU counts the number of pulses of the drive signal from the time at which the last reset signal was input, of the reset signals input at each revolution of the picture reels

(1), (2), (3) from the position detecting sensors (15), (16), (17), to the time at which the stop signal is input and the transmission of the drive signal to the stepping motors (5), (6), (7) is halted. Since the number of pulses of the drive signal required to rotate one picture box section depicted on the picture reels (1), (2), (3) is already known, it can be judged which boxes of each picture reel (1), (2), (3) appear in the reel window (22), according to the counted number of pulses. In order to judge prize winning, the combinations of different types of pictures which relate to prize winning are stored in a prescribed area of the ROM. The CPU takes the number of counted pulses as an instance, and compares this with the information in the ROM. If the compared information matches, then a prize has been won, and the type of prize is also determined.

Judgement of prize winning in a subsidiary game is performed by means of the CPU detecting the stopped figure on the circular disk (81), on the basis of the reset signal from the position detecting sensor (87), similarly to the case of the picture reels (1), (2), (3) described above, and then determining whether or not a prize has been won by comparing this figure with prize combinations in the ROM.

After judgement for a normal game and judgement for a subsidiary game, if the CPU issues a drive signal to the hopper, the hopper is drive thereby to pay out tokens.

The game contents according to the aforementioned embodiment will now be described on the basis of Fig. 4.

With the power supply switched on, when a player inserts a token to the token input slot (9) and presses the start switch (10), the picture reels (1), (2), (3) start to rotate (101), and the game starts. Thereupon, when the player presses the respective stop buttons (11), (12), (13), as desired (102), the picture reels (1), (2), (3) stop at positions corresponding to the times at which the respective stop buttons were operated (103). At this time, prize winning is determined (104), and if no prize has been won, then the game ends directly.

In the embodiment shown in Fig. 4, prizes such as a continuation bonus and continuation bonus increase in a conventional game machine are removed, and when a particular prize is won, the machine proceeds to a subsidiary game, in which continuation bonus and continuation bonus increase prizes are won. When the aforementioned particular prize is won, the circular disk (81) starts to rotate (105), thereby starting a subsidiary game. In the present embodiment, the payout (100) of tokens corresponding to said particular prize is performed after the subsidiary game has

started, but of course, it may be performed before the subsidiary game starts, in other words, directly after the normal game has ended. When the player presses the stop button (14) (107), the circular disk (81) stops rotating. If the figure at which the disc has stopped is an even number, then a continuation bonus increase (large bonus) is determined by the microcomputer (30), and if it is an odd number, then a continuation bonus (small bonus) is determined, whereas if it is blank, then no prize is determined (108). If neither type of prize is won in the subsidiary game, then the game ends directly, but if a prize has been won, then the continuation bonus device or continuation bonus increasing device is activated, whereby a small bonus game (109) or large bonus game (110) can be played.

As described above, in the present embodiment, in addition to the normal game in step (101) to step (104), it is also possible to play a subsidiary game from step (105) to step (110), and therefore many extremely enjoyable games can be played on the machine.

Second Embodiment

This embodiment is described on the basis of Fig. 5. The portion relating to the normal game is the same as in the first embodiment, and is therefore not depicted in this diagram, and only the portion from step (104) in Fig. 4 onwards is depicted.

In this embodiment, the continuation bonus (small bonus) prize is left within the normal game, and only the continuation bonus increase (large bonus) prize is playable in the subsidiary game. In other words, the prize pictures for the continuation bonus increase are omitted from the picture reels (1), (2), (3).

In this embodiment, the circular disk (81) shown in Fig. 2d is appropriate. In this circular disk (81), an appropriate number of particular numerical figures, such as "7", are depicted in boxes demarcated along the circumference of the disc surface, and blank boxes are also provided thereon. If the disc stops with a box depicting a figure at the position of the stop mark (71), then a prize is won, and if it stops with a blank box at this position, then no prize is won. It is also possible to depict images, such as diamonds, or the like, instead of the aforementioned numerical figures. In the case of this disc, the probability of winning a prize in the subsidiary game is 50%.

At step (104), prize judgement for a normal game is carried out, and if a previously determined prize is won, then the circular disk (81) is rotated (105), thereby starting a subsidiary game, and simultaneously, tokens corresponding to the prize are paid out (106). When the player subsequently presses the stop button (14) (107), the

rotation of the circular disk (81) is halted and the microcomputer (30) determines the prize for the subsidiary game, from the combination of stopped figures (108). If, as a result of this judgement, a prize has been won, then a large bonus game can be played (109). If no prize has been won, then the game ends. If a continuation bonus prize is won in the judgement operation at step (104) for a normal game, then tokens corresponding to the prize are paid out (106), whereupon a small bonus game can be played (109).

Third embodiment

This embodiment is described on the basis of Fig. 6. The portion relating to the normal game is the same as in the first embodiment, and is therefore omitted from the diagram, which only depicts processing from step (104) in Fig. 4 onwards.

In the present embodiment, the continuation bonus increase (large bonus) prize is left within the normal game, and the continuation bonus (small bonus) prize only is played in the subsidiary game. In other words, the prize pictures for the continuation bonus are omitted from the picture reels (1), (2), (3). In the case of this embodiment, the circular disk (81) in Fig. 2d is appropriate, and the displayed symbols are desirably images, such as star symbols, for example. However, it is also possible to depict a particular numerical figure.

At step (104a), prize judgement is performed, and if a previously determined prize is won, then the circular disk (81) is rotated (105), thereby starting the subsidiary game, whilst simultaneously, tokens corresponding to the prize are paid out (106). Thereupon, when the player subsequently presses the stop button (14), the rotation of the circular disk (81) stops, and the microcomputer (30) performs prize judgement for the subsidiary game according to the combination of stopped figures (108). If, as a result of this judgement, a prize has been won, then a small bonus game can be played (110). If no prize has been won, then the game ends. If a continuation bonus increase prize was won in the judgement operation at step (104) for the normal game, then after tokens corresponding to the prize have been paid out (111), a large bonus game can be played (112).

Fourth embodiment

This embodiment is described on the basis of Fig. 7. In this embodiment, a reel (hereinafter called subsidiary reel (82)) is used as a rotating member for the subsidiary game means. The subsidiary reel (82) used is of virtually the same composition as the picture reels (1), (2), (3), but it may be formed to a smaller size than same. Symbols,

such as numerical figures, images, or the like, are depicted on the circumference surface thereof, in such a manner that a portion thereof is visible through the reel window (72).

In this embodiment, if a previously determined prize symbol stops at the position of the stop mark (73) provided to the side of the reel window (72), then it is judged that a prize has been won.

Fifth embodiment

In the respective embodiments described above, the halting of the issuing of the control signal to either the circular disk (81) or the subsidiary reel (82), or the like, is performed by one stop button (14) as illustrated in Fig. 1, but it is also possible for the halt signal to be issued automatically when a prescribed period of time (for example, 2 – 3 seconds) has elapsed, without providing any halt button.

Various embodiments of the present invention have been described above, but the present invention is not limited to these embodiments, and it is possible to adopt various modifications without departing from the essence of the invention.

(Merits of the Invention)

According to the present invention, if a prize is won in a normal game, then rather than simply obtaining a corresponding prize, it is also possible to play a subsidiary game as well, thereby providing a game which is interesting to play.

4. Detailed Description of the Drawings

Fig. 1 is a functional diagram of the present invention; Fig. 2a is front view of a front panel of a rotating drum type amusement machine relating to a first embodiment of the present invention; Figs. 2b – 2d are principal front views of a circular disc constituting a rotating member; Fig. 3 is an electrical circuit diagram of the first embodiment; Fig. 4 is a flowchart showing the game contents of the first embodiment; Fig. 5 is a flowchart showing the game contents of a second embodiment; Fig. 6 is a flowchart showing the game contents of a third embodiment; Fig. 7 is an explanatory diagram of a subsidiary reel forming a rotating member according to a fourth embodiment; Fig. 8 to Fig. 9 are explanatory diagrams of a conventional amusement machine; and Fig. 10 is a flowchart showing game contents according to the prior art.

(Principal symbols in the drawings)

(1), (2), (3) picture reel

(5), (6), (7)

(84) stepping motor

(10) start switch

(11), (12), (13), (14) stop button

(15), (16), (17), (87) position detecting sensor

(30) microcomputer

(31) normal game judging means

(32) subsidiary game judging means

(33) hopper driving means

(41) token detecting unit

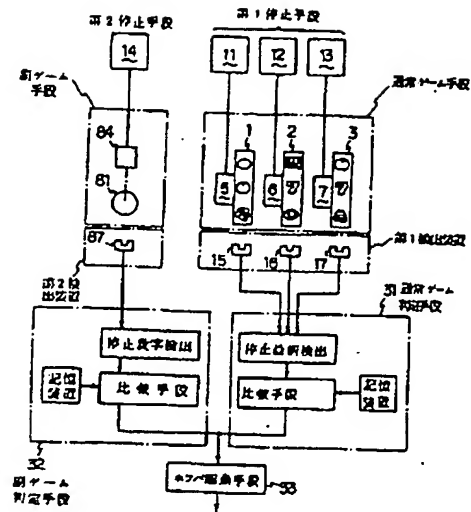
(42) hopper

(81) circular disk

(82) subsidiary reel

Applicant	Tokyo Pabuko K.K.	(and one other)
Agent	Sota Asahina	(and one other)

Fig. 1



Key to figure, left to right, top to bottom:

Second stopping means

First stopping means

Subsidiary game means

Normal game means

First detecting device

Second detecting device

31 normal game judging means

Stopped figure detection

Stopped picture detection

Storage unit

Comparator means

Comparator means

Storage unit

32 Subsidiary game judging means

33 Hopper driving means

Fig. 2a

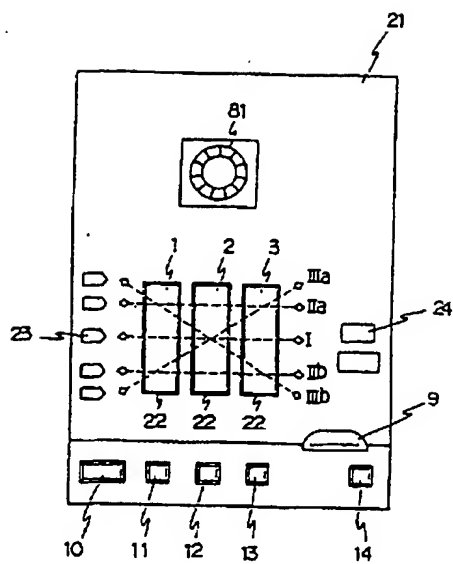


Fig. 2b

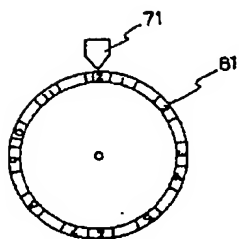


Fig. 2c

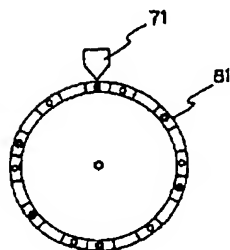


Fig. 2d

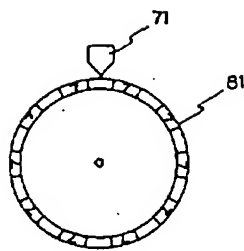
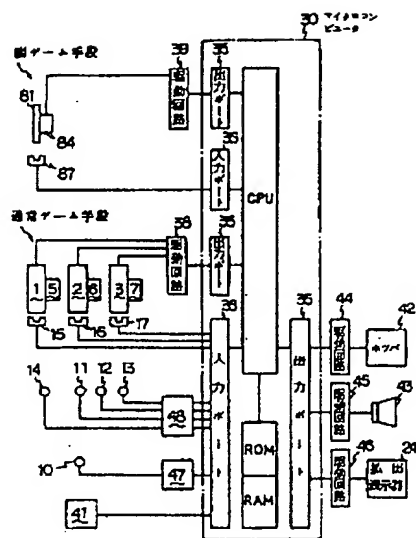


Fig. 3



Key to figure, left to right, top to bottom:

Subsidiary game means

39 Drive circuit

35 Output port

36 Input port

Normal game means

35 Output port

38 Drive circuit

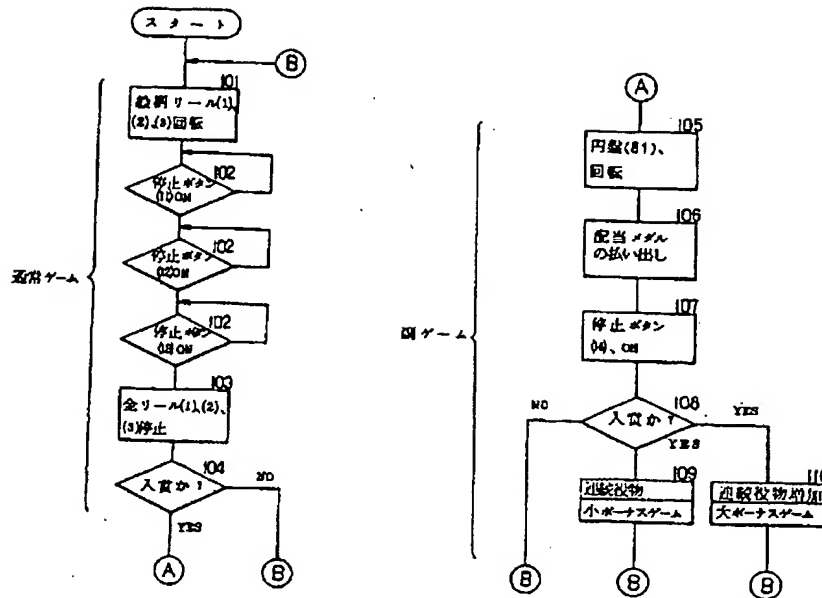
35 Output port

36 Input port

44 Drive circuit

45 Drive circuit
46 Drive circuit
42 Hopper
24 Payout display unit

Fig. 4



Key to figure, top to bottom, left to right:

START

101 Rotate picture reels (1), (2), (3)

102 Stop button (14) ON

102 Stop button (14) ON

Normal game

102 Stop button (14) ON

103 Stop all reels (1), (2), (3)

104 Prize won?

Right side:

105 Rotate circular disc (81)

106 Pay out corresponding tokens

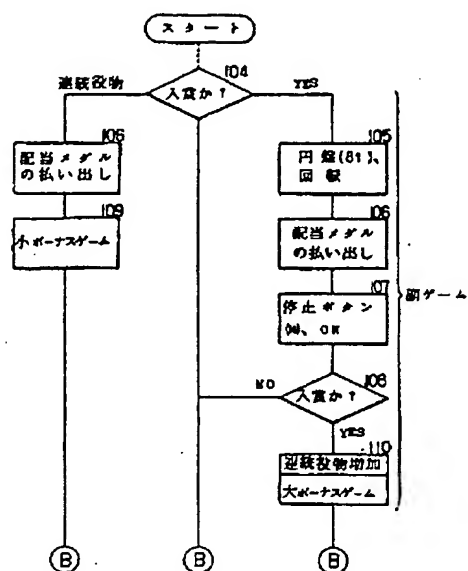
107 Stop button (14) ON

Subsidiary game

108 Prize won?

- 109 Continuation bonus
- Small bonus game
- 110 Continuation bonus increase
- Large bonus game

FIG. 5



Key to figure, left to right, top to bottom:

START

Continuation bonus

104 Prize?

106 Pay out corresponding tokens

105 Rotate circular disc (81)

109 Small bonus game

106 Pay out corresponding tokens

107 Stop button (14) ON

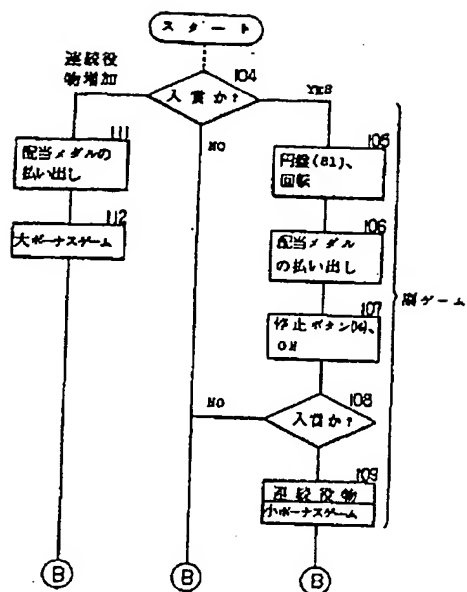
Subsidiary game

108 Prize won?

110 Increase continuation bonus

Large bonus game

Fig. 6



Key to figure, left to right, top to bottom:

START

Continuation bonus increase

104 Prize won?

111 Pay out corresponding tokens

105 Rotate circular disc (81)

112 Large bonus game

106 Pay out corresponding tokens

Subsidiary game

107 Stop button (14) ON

108 Prize won?

109 Continuation bonus

Small bonus game

Fig. 7

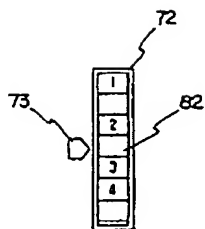


Fig. 8

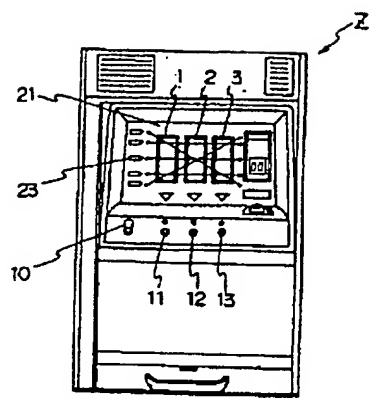


Fig. 9

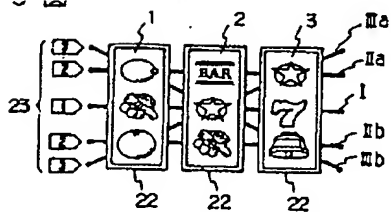
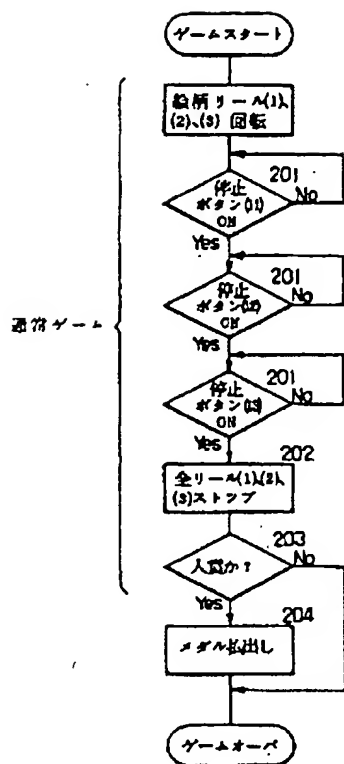


Fig. 10



Key to figure, top to bottom, left to right:

Game Start

Rotate picture reels (1), (2), (3)

201 Stop button (11) ON

201 Stop button (12) ON

Normal game

201 Stop button (13) ON

202 Stop all reels (1), (2), (3)

203 Prize won?

204 Pay out tokens

GAME OVER

Procedural Amendment

7th June 1986

Patent Governor's Office

1. Indication of case

Showa 61 Application No. 97650

2. Title of invention

Rotating drum type amusement machine

3. Party effecting amendment

Relationship to case Applicant

Address

Name Tokyo Pabuko K.K.

and one other

4. Agent T540 .

Address

Name (6522) Sota Asahina Patent Attorney

Tel : (06) 943-8922

and one other

5. Object of amendment

(1) "Detailed Description of the Invention" in Specification.

6. Details of amendment

(1) Page 14, line 8: "continuation bonus ..." amended to "continuation bonus increase ..."

END